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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/628,155      | 07/28/2003  | Lawrence W. Clark    | 01-187              | 4367             |

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EXAMINER

HARTMAN JR, RONALD D

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2121

DATE MAILED: 10/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |  |                     |  |
|------------------------------|------------------------|--|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |  | <b>Applicant(s)</b> |  |
|                              | 10/628,155             |  | CLARK ET AL.        |  |
|                              | <b>Examiner</b>        |  | <b>Art Unit</b>     |  |
|                              | Ronald D Hartman Jr.   |  | 2121                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/28/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Claims 1-12 are presented for examination.

#### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

3. Claims 1 and 9 are objected to because the preamble claims a method for operating a manufacturing line/cell, wherein the claim itself (body) merely sets forth a method for displaying changed manufacturing instructions resulting from changes which occur dynamically during the actual manufacturing process. Therefore, the claim should be re-written to include steps or features directed towards the actual operation of the manufacturing line, or the preamble should be re-written to more adequately convey what is presently being claimed, that is, a method for displaying manufacturing instructions, resulting from changes which occur in a manufacturing line.

Claim 1, line 5 should be re-written as either "enabling *a change* in a manufacturing ..." or "enabling *the fluid change* in a manufacturing ...".

Claim 4, line 2, "said changed manufacturing component" lacks proper antecedent basis.

Claim 12, line 4, "workstation" should be plural.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 claim an invention that is directed to non-statutory subject matter.

As per claims 1-11, the claimed invention must fall within the useful or technological arts and must be useful, concrete and tangible. In the instant case, claims 1-11 claim an invention that does require computer implementation or use computer technology to accomplish the claimed method, and for this reason, these claims are non-statutory in nature.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, lines 8-9 recite "in a first manufacturing workstation". However, the specification refers to a workstation as being a computer and a station as being the place where the actual work occurs. Therefore, the applicant's claiming of "in a first manufacturing workstation" renders the claim indefinite since the examiner is unsure as to whether the display screen is located at the station (i.e. where the actual work occurs) or if the display screen is located inside a computer (i.e. a workstation) and since each interpretation dramatically changes the scope of the claim, the examiner has

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interpreted this feature to mean that the display screen is located on a computer (i.e. workstation), regardless of the location of the actual manufacturing station. In other words, the claim has been interpreted to mean, "on a display screen of a first manufacturing workstation".

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 7-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by LaLonde et al. (hereafter: LaLonde), U.S. Patent No. 6,240,328.

As per claims 1, 7, 9 and 12, LaLonde teaches a method comprising:

- establishing a fluid change (Examiner Note: as per the applicant's disclosure, a fluid change is interpreted to mean any dynamic change, See specification, pages 3-4, [12]) associated with a manufacturing characteristic, enabling a change in a manufacturing instruction in response to the changed manufacturing characteristic and displaying the changed manufacturing instruction, which is associated with a manufacturing component, on a display screen of a first manufacturing workstation (i.e. dynamically generating and scheduling step-by step instructions, on a per configuration basis, for each product being manufactured in a manufacturing facility and displaying the instructions on a display in each station, C1 L50-53, C1 L62-65, C2 L14-18 and C2 L53-61).

As per claims 9 and 12, LaLonde further teaches the displaying of the changed manufacturing instruction in response to a defined event (i.e. displaying work instructions on a per order basis, C9 L12-18).

As per claim 12, LaLonde further teaches a plurality of workstations, wherein each workstation includes a display and a computer controller connected to each workstation (i.e. Figure 1 elements 60, 65 and 70, respectively).

As per claim 4, displaying the location of a changed component is inherent to LaLonde's teaching that visual descriptions are formed and displayed on a display of a manufacturing station for each manufacturing step (i.e. C4 L5-55, C4 L60-65 and claims 2 and 12-13).

As per claim 7, LaLonde teaches sending the changed manufacturing instruction associated with a component to a display screen on a workstation, in preparation for a manufacturing operation (i.e. C1 L50-65).

As per claim 8, LaLonde teaches pulling the changed manufacturing instruction associated with a component from a repository (i.e. Figure 2 elements 20, 30 and 35).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over LaLonde, as applied to claim 1 above, in view of Nagai et al. (hereafter: Nagai), U.S. Patent No. 5,008,842.

As per claim 2, LaLonde does not specifically teach stopping the manufacturing line when and if manufacturing instructions are not performed.

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Nagai teaches a method and apparatus for stopping a production line when an operation failure is experienced so as to avoid an escalation into more serious trouble (i.e. C1 L15-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Nagai into the disclosed system and method taught by LaLonde for the purpose of providing a way by which the production line may be stopped, in the event that a problem is encountered during manufacturing, so that the problem does not escalate into a bigger problem. Also, the use of a stopping feature would also allow for the production line to discontinue production of products that may not meet desired specifications upon ascertaining that a problem has occurred during the manufacturing and operation of the production line. Providing for the stopping feature for a production line allows for the system to limit the amount of products that are manufactured after a problem is encountered which saves time and money, and the incorporation of these features, taught by Nagai, into the system of LaLonde would have been obvious to one of ordinary skill in the art at the time the invention was made for at least these reasons.

9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as both being unpatentable over LaLonde, as applied to claim 1 above, in view of Ouchi et al., (hereafter: Ouchi), U.S. Patent No. 5,831,407.

As per claims 5 and 6, LaLonde does not specifically teach using up a component before a changed component is utilized in the manufacturing of a product, nor specifically ordering a component in response to a change in a manufacturing instruction.

Ouchi teaches using up a component before a changed component is utilized in the manufacturing of a product (i.e. C14 L51-62) and Ouchi also teaches ordering a component in response to a change in a manufacturing instruction (i.e. C5 L47-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the features taught by Ouchi into the system disclosed by LaLonde for the purpose of providing a intelligent manufacturing system

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that allows for inventory levels to be adequately maintained so that when a change occurs, appropriate parts which are needed for the change are readily available. The incorporation of these features, taught by Ouchi, into the system taught By LaLonde provide for a more reliable manufacturing process since inventory levels are effectively and dynamically maintained in response to changes occurring to the manufacturing process, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

10. Claims 10-11 are rejected as being unpatentable over LaLonde, as applied to claim 9 above, in view of Nitta et al. (hereafter: Nitta), U.S. Patent No. 6,345,207.

As per claims 10-11, LaLonde does not specifically teach a feature whereby information of the manufacturing instruction is emphasized and that the emphasis is discontinued after a second event.

Nitta teaches a feature whereby information of a manufacturing instruction, pertaining to a manufacturing step to be performed, is emphasized and that the emphasis is discontinued after a second event (i.e. C5 L12-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the features, as disclosed by Nitta, into the system disclosed by LaLonde for the purpose of providing a human operator the detailed instructions needed so as to allow for efficient manufacturing of the desired product wherein information that is very important may be rep[resented] in such a way that the operator will not miss anything that is critical to the assembly process, and this feature allows for more effective operation of an assembly station since each stations work instructions are detailed in such a way that the operator will not miss any steps, which leads to great productivity of the assembly line, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.



***Allowable Subject Matter***

11. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 3, the prior art of record fails to teach a method for operating a manufacturing line wherein when one station receives a change in instruction for assembly of a product, and this change in instruction is not performed by the first station, the second station, which follows the first station, is instructed to perform the operation that was not performed by the first station, in combination with the other claimed features and or limitations as claimed by the claimed invention was not found in the prior art of record.

This system forms an assembly line manufacturing method that allows for stations to "make up" for operations that a previous station "missed", and this feature increases the flexibility of the assembly line and forms a more reliable means of producing products since the product no longer needs to be sent back to previous stations for completion of operations missed or assembly instructions that were not performed.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D Hartman Jr. whose telephone number is 703-308-7001, and after October 12, 2004, (571) 272 - 3684. The examiner can normally be reached on Mon. - Fri., 11:30 am - 8:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179, and starting October 12, 2004, at (571) 272 - 3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

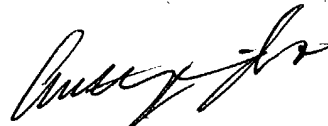
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald D Hartman Jr.

Examiner

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A handwritten signature in black ink, appearing to read 'Anthony Knight', is positioned above the printed name.

Anthony Knight  
Supervisory Patent Examiner  
Group 3600